April 27, 2004

Dear Colleagues,

A third vancomycin-resistant *Staphylococcus aureus* (VRSA) has been recovered in the United States, as reported by the CDC April 23, 2004. As you know, the first VRSA was isolated in Michigan and the second in Pennsylvania in 2002. This third isolate is especially troubling because testing at the CDC indicates that the **Microscan and Vitek testing panels and cards available in the United States did not detect vancomycin resistance in this isolate.** Consequently, there is now concern that additional isolates of VRSA may have gone undetected by laboratories using automated methods.

This particular isolate was recovered from a urine culture obtained March 17 from a resident of a long-term--care facility. The isolate was tested for antimicrobial susceptibility by using Microscan® overnight panels (Dade Behring, Deerfield, Illinois); vancomycin MIC was 4 µg/mL. Further testing by Etest® (AB Biodisk North America, Inc., Piscataway, New Jersey) indicated that the isolate was resistant to vancomycin (MIC >256 µg/mL). After notification and subsequent analysis by the New York State Department of Health (NYSDOH), the isolate was forwarded to CDC, where it was confirmed to be VRSA (vancomycin MIC = 64 µg/mL, using the NCCLS broth microdilution reference method). The isolate contained both the *mecA* and *vanA* genes mediating oxacillin and vancomycin resistance, respectively. The isolate was susceptible to chloramphenicol, linezolid, minocycline, quinupristin-dalfopristin, rifampin, and trimethoprim-sulfamethoxazole.

The most accurate form of vancomycin susceptibility testing for staphylococci is a non-automated MIC method (e.g., broth microdilution, agar dilution, or agar-gradient diffusion) incubated a full 24 hours before reading results. Since these methods are not widely available, CDC recommends that laboratories using automated systems should **include a vancomycin screening agar plate containing 6 ug/mL of vancomycin and examine the plate for growth after a full 24-hour incubation.** (If growth is detected before the full 24 hours, there is no need to incubate the plate longer.) This testing is particularly important for oxacillin/methicillin-resistant *S. aureus* (MRSA) because all VRSA isolates found to date have also been MRSA. Isolation of *S. aureus* suspected of being vancomycin-resistant (VRSA) or vancomycin -intermediate (VISA) with an MIC of 4 ug/mL or greater is of immediate infection control and public health importance. Notify your infection control department, the local health department, and the MDCH laboratory at 517-335-8067 immediately. Please **save these isolates** for confirmation at the MDCH laboratory and for further characterization by CDC.

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